

WHAT IS CLAIMED IS:

1. A pulley support double row ball bearing comprising:
 - an outer race with an outer diameter of 65 mm or less and double rows of outer raceways formed around its inner circumferential surface;
 - an inner race that has double rows of inner raceways formed around its outer circumferential surface;
 - a plurality of balls with a diameter of 4 mm or less that are located between each of the outer raceways and inner raceways such that they roll freely;
 - a retainer that holds the balls such that they roll freely;
 - and seal rings that seal the openings on both ends of the internal space between the inner circumferential surface of the outer ring and the outer circumferential surface of the inner ring where the balls are located;
 - and wherein a width of the bearing in the axial direction is 45% or less than that of the inner diameter of the inner ring, and by fitting the inner ring around a support member and fitting the outer ring inside a pulley, the pulley is supported such that it rotates freely around the support member;
 - and a portion near an inner circumference of the respective seal rings and both end surfaces in the axial direction of the inner ring overlap when viewed from the axial direction, so that a width in the radial direction of an

overlap section is 25% or more than a diameter of the respective balls;

and of a plurality of protrusions that are formed all around a circumference on an inside surface at a portion near an inner circumference of the respective seal rings, a tip edge of at least one of the protrusions comes in sliding contact with the end surfaces in the axial direction of the inner ring.

2. A pulley support double row ball bearing comprising:

an outer race with an outer diameter of 65 mm or less and double rows of outer raceways formed around its inner circumferential surface;

an inner race that has double rows of inner raceways formed around its outer circumferential surface;

a plurality of balls with a diameter of 4 mm or less that are located between each of the outer raceways and inner raceways such that they roll freely;

a retainer that holds the balls such that they roll freely;

and seal rings that seal the openings on both ends of the internal space between the inner circumferential surface of the outer ring and the outer circumferential surface of the inner ring where the balls are located;

and wherein a width of the bearing in the axial direction is 45% or less than that of the inner diameter of the inner ring, and by fitting the inner ring

around a support member and fitting the outer ring inside a pulley, the pulley is supported such that it rotates freely around the support member;

and a portion near an inner circumference of the respective seal rings and both end surfaces in the axial direction of the inner ring overlap when viewed from the axial direction, so that a width in the radial direction of an overlap section is 25% or more than a diameter of the respective balls;

and of one or more protrusions that are formed all around a circumference on a side surface at a portion near an inner circumference of the respective seal rings, a tip edge of at least one of the protrusions comes in sliding contact all the way around the circumference with a part of the surface of the inner ring;

and the other portion near the inner circumference of the respective seal rings, that are not the protrusions being in sliding contact, comes close to and faces the other part of the surface of the inner ring, so that labyrinth seals are formed.

3. A pulley support double row ball bearing comprising:

an outer race with an outer diameter of 65 mm or less and double rows of outer raceways formed around its inner circumferential surface;

an inner race that has double rows of inner raceways formed around

its outer circumferential surface;

a plurality of balls with a diameter of 4 mm or less that are located between each of the outer raceways and inner raceways such that they roll freely;

a retainer that holds the balls such that they roll freely;

and seal rings that seal the openings on both ends of the internal space between the inner circumferential surface of the outer ring and the outer circumferential surface of the inner ring where the balls are located;

and wherein a width of the bearing in the axial direction is 45% or less than that of the inner diameter of the inner ring, and by fitting the inner ring around a support member and fitting the outer ring inside a pulley, the pulley is supported such that it rotates freely around the support member;

and the seal rings comprise an elastic material having a Shore hardness of 60 to 80 and reinforced by a metal core, and the width in the radial direction of a deformed section of the elastic material that protrudes inward in the radial direction from the inner edge of the metal core is 40% or more than the diameter of the respective balls, and the thickness of the thinnest area of this deformed section, which is located in the middle in the radial direction of this deformed section, is 0.4 mm or more.

4. A pulley support double row ball bearing comprising:

an outer race with an outer diameter of 65 mm or less and double rows of outer raceways formed around its inner circumferential surface;

an inner race that has double rows of inner raceways formed around its outer circumferential surface;

a plurality of balls with a diameter of 4 mm or less that are located between each of the outer raceways and inner raceways such that they roll freely;

a retainer that holds the balls such that they roll freely;

and seal rings that seal the openings on both ends of the internal space between the inner circumferential surface of the outer ring and the outer circumferential surface of the inner ring where the balls are located;

and wherein a width of the bearing in the axial direction is 45% or less than that of the inner diameter of the inner ring, and by fitting the inner ring around a support member and fitting the outer ring inside a pulley, the pulley is supported such that it rotates freely around the support member;

and wherein the seal rings comprise an elastic material that is reinforced by a metal core, and an inner diameter of this metal core is less than an outer diameter of the inner ring.

5. A pulley support double row ball bearing comprising:

an outer race with an outer diameter of 65 mm or less and double rows of outer raceways formed around its inner circumferential surface;

an inner race that has double rows of inner raceways formed around its outer circumferential surface;

a plurality of balls with a diameter of 4 mm or less that are located between each of the outer raceways and inner raceways such that they roll freely;

a retainer that holds the balls such that they roll freely;

and seal rings that seal the openings on both ends of the internal space between the inner circumferential surface of the outer ring and the outer circumferential surface of the inner ring where the balls are located;

and wherein a width of the bearing in the axial direction is 45% or less than that of the inner diameter of the inner ring, and by fitting the inner ring around a support member and fitting the outer ring inside a pulley, the pulley is supported such that it rotates freely around the support member;

and wherein the seal rings comprise an elastic material that is reinforced by a metal core, and a position in the axial direction of the center of gravity of the deformed section of the elastic material that protrudes inward in the radial direction from the inner edge of the metal core is located more

adjacent to the side of the sliding contact between the tip edge of the seal ring and part of the surface of the inner ring than the position of the center of deformation of this deformed section.